

introduction

BACKGROUND

Very significant health problems are associated with overweight and obesity among children and adolescents (Lobstein, Baur & Uauy, 2004).

Obese children and adolescents are at significantly increased risk of:

- > respiratory problems (eg asthma and sleep apnoea)
- > orthopaedic problems (eg sprains, flat feet, slipped capital femoral epiphyses, tibial torsion)
- > neurological problems
- > gastrointestinal problems (eg fatty liver disease and gall stones)
- > endocrine problems (eg type 2 diabetes, polycystic ovary syndrome)
- > cardiovascular problems (eg high blood pressure, dyslipidaemia).

That is, almost every organ system of the body is affected and the health problems can be chronic, disabling and ultimately life-threatening.

Although many of these health problems are less likely to occur among overweight, as opposed to obese, children and adolescents, overweight young people are at increased risk of type 2 diabetes, fatty liver disease and cardiovascular disease. In addition to physical health problems, obesity is associated with poorer psychological and social functioning. Obese children are likely to be subjected to negative stereotyping by their peers and to have fewer friends than thinner children (Lobstein, Baur & Uauy, 2004). The risks to health associated with overweight appear to be very persistent. Even if obese young people become lean as adults, they still have elevated risks for cardiovascular disease and other health problems (Must et al., 1992).

For the period 1969-1985, there was no change in the prevalence of overweight or obesity among girls, but among boys the prevalence of overweight increased by 35%, the prevalence of obesity trebled, and the prevalence of overweight and obesity combined increased by 60%. However, over the following 12 years (1985-1997), the population prevalence of overweight increased by 60-70%, obesity increased twofold to fourfold, and the prevalence of overweight and obesity combined doubled for both boys and girls (Booth et al., 2003). Although the prevalence of overweight was rising prior to the mid-1980s, the rate of increase has become far more rapid since that time. From 1985 to 1997, the prevalence of overweight increased by a little less than 1% per year. In 1997, the prevalence of overweight was in the range 14-18% and the prevalence of obesity was 5% (19-23% for overweight and obesity combined). These findings are consistent with the situation in most other developed countries.

There have been attempts to determine if some population groups are more likely to be overweight than others (Booth et al., 2001). There do not appear to be consistent relationships between the prevalence of overweight/obesity and sex, age or socioeconomic status, although other Australian studies suggest that overweight becomes more prevalent with decreasing socioeconomic status among children. Differences do appear to exist between urban and rural boys with the prevalence of overweight/obesity up to 4% higher in urban than rural areas. Differences have also been reported among different cultural groups. The prevalence of overweight is higher among students from European or Middle-Eastern cultural backgrounds, particularly girls (Booth et al., 2001).

Overweight and obesity has the hallmarks of a major public health problem: it is common and rapidly becoming more common, and it is attended by diverse and substantial threats to health. Overweight and obesity is widely recognised as one of the most significant threats to the health of the Australian population, particularly young people, and a determined effort to understand the problem and to develop and implement effective prevention and treatment programs is clearly warranted. The most direct causes of overweight are inadequate physical activity and/or a diet that contains more energy than the amount of activity being done requires. Therefore, effective interventions must promote greater physical activity and healthier food habits among young people.

Internationally, the World Health Organization has been raising the issue of 'globesity' for some time, and has developed the *Global Strategy on Diet, Physical Activity and Health* (WHO, 2004). One of the first major steps taken in NSW was the convening of the NSW Childhood Obesity Summit in September 2002 at the NSW Parliament House. Among the many policy and program initiatives to flow from the summit was a commitment to establish the NSW Centre for Overweight and Obesity (COO). It is recognised that a critical component of effective and sustained prevention programs is systematic monitoring of overweight, its causes and its consequences. Consequently, COO was tasked in its first year to conduct a population survey of school-aged young people in NSW (attending Years K, 2, 4, 6, 8 and 10), collecting data on overweight and obesity, physical activity and sedentariness, travel behaviours, cardiovascular fitness, fundamental movement skills, food habits and eating behaviours, markers of biological responses to overweight (among Year 10 students) and aspects of the school environment and canteen operation.

The study builds on the *NSW Schools Fitness and Physical Activity Survey 1997* (NSWSFPAS), which was the first and most recent statewide survey to collect benchmarking data on the body composition, health-related fitness, physical activity habits and mastery of fundamental movement skills among primary and high school students in NSW.

NATURE AND RATIONALE OF THE STUDY

The broad aims of the *NSW Schools Physical Activity and Nutrition Survey 2004* (SPANS 2004) were to describe the:

- 1 prevalence, population distribution and trends (1997-2004 and 1985-2004) of overweight and obesity, physical activity participation and sedentariness
- 2 prevalence, population distribution and trends (1997-2004) in cardiorespiratory endurance and fundamental movement skills
- 3 prevalence and population distribution of key food habits and eating behaviours
- 4 prevalence, population distribution and trends (1985-2004, where possible) of biological risk factors for cardiovascular disease, type 2 diabetes and fatty liver disease
- 5 nature of the associations between adiposity, its associated behaviours and its biological risk factors
- 6 characteristics of schools (policies, programs, environments) and the nature of their associations with the physical activity habits, cardiorespiratory endurance and fundamental movement skills of the students.

The findings of SPANS will be useful for the NSW community. The findings will allow the government to monitor the prevalence of overweight and its associated behaviours among young people in NSW and to determine if the problem is getting better or worse. The findings will also be used to guide further research and intervention, and policy, practice and planning related to child and adolescent health. For parents and the broader community, the findings will highlight specific behaviours (eg excessive TV-watching or consumption of excess quantities of soft drink) that might be targeted in the home to help prevent the development of overweight. Non-government organisations will be able to make use of the findings in their efforts as advocates for young people's health and in their support for the various institutions and other groups with responsibility for the health of young people (eg schools, sports and recreational clubs, and other community groups).

In terms of the breadth and relevance of the information collected, SPANS is one of the most comprehensive child and adolescent health surveys ever conducted in Australia. However, SPANS 2004 is just one step in the ongoing process of effective health monitoring, and further improvements should be constantly sought. Of course, the collection of data does not remedy a public health problem. It is now up to many and diverse groups across NSW to make good use of these data to protect and promote the health of young people.

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